Method of reducing th nox-emissions during combustion of nitrogen-containing fu ls

Patent Number: ⌐ US4790743

Publication date: 1988-12-13

Inventor(s): LEIKERT KLAUS (DE); BUETTNER GERHARD (DE); RENNERT KLAUS-DIETER (DE)

Applicant(s): STEINMUELLER GMBH L & C (DE)

Requested Patent: ⌐ DE3331989

Application Number: US19860937346 19861203

Priority Number(s): DE19833331989 19830905

IPC Classification:

EC Classification: F23C6/04B1, F23R3/34

Equivalents: CA1238570, ⌐ DK421784, ⌐ FR2551532, ⌐ GB2146113, ⌐ JP60091115

Abstract

A method of reducing the NOx-emissions during combustion of nitrogen-containing fuels via burner units each including a primary burner and being arranged in a wall of a closed combustion chamber; fuel and air for combustion are supplied to the burner flame in stages as partial flows via delivery means which are separate from one another. With a number of primary burners being arranged one above the other the method is carried out in three steps: feeding coal dust along with its carrier gas to the primary burner and generating a primary flame zone having a strong internal back flow region and burning the coal dust under fuel-rich conditions, feeding reduction fuel into the combustion chamber and generating a secondary flame zone in the vicinity of the primary flame zone and being operated under more-fuel-rich conditions than the primary flame zone, feeding reduction fuel into the combustion chamber and generating a secondary flame zone in the vicinity of the primary flame zone and being operated under more-fuel-rich conditions than the primary flame zone, and feeding state air into the combustion of the secondary flame zone and being operated under fuel lean conditions.